

REMARKS

In the Office Action, claims 27-34 and 38-45 were rejected under 35 U.S.C. § 103(a) as being unpatentable over USP 5,784,289 issued to Wang (Wang) in view of USP 6,058,254 issued to Scepanovic et al. (Scepanovic). Claims 27 and 38 were also rejected under 35 U.S.C. § 102(e).

5 as being anticipated by Scepanovic. In this Response, Applicants have not amended, added, or canceled any claims. Accordingly, claims 27-52 will be pending after entry of this Response.

I. Claims 35-37, 46, and 47-52

Applicants note with appreciation that the Examiner indicated that claims 35-37 and 46 would be allowable if rewritten in independent form to include all of the limitations of the base

10 claim and any intervening claims. Applicants, however, have not rewritten claims 35-37 and 46 in independent form because, as further described below, Applicants believe that the base independent claims for these claims are patentable over the cited art.

Applicants also respectfully note that the Office Action did not include any discussion of claims 47-52, which were added in the previous Amendment. Claims 47-52 are computer readable

15 medium claims that are similar to several of the rejected claims 27-34 and 38-45. Accordingly, Applicants respectfully submit that claims 47-52 are patentable over the cited art for the same reasons that are discussed below for rejected claims 27-34 and 38-45.

II. Claims 27-34

Claims 27-34 stand rejected under § 103 as being unpatentable over Wang in view of

20 Scepanovic. Claim 27 was also rejected under § 102(e) as being anticipated by Scepanovic.

Applicants respectfully traverse this rejection. Claims 28-34 are dependent directly or indirectly on independent claim 27. Claim 27 recites a method of routing several nets (each with a set of pins) in a region of an IC layout. This method partitions the region into several sub-

regions, where several edges exist between the sub-regions. For each particular net, the method identifies an edge-intersect probability for each particular edge that specifies the probability that a set of potential routes for the particular net will intersect the particular edge, where a potential route for a particular net traverses the set of sub-regions that contain the particular net's set of pins. The method then uses the identified edge-intersect probabilities to identify routes for the nets.

Applicants respectfully submit that Wang and Scepanovic, neither separately nor through their piecemeal, hindsight combination, disclose, teach, or even suggest such a method. Specifically, the cited art does not disclose, teach, or even suggest a routing method that

- 10 • partitions an IC region into several sub-regions, where several edges exist between the sub-regions;
- for each particular net, identifies an edge-intersect probability for each particular edge that specifies the probability that a set of potential routes for the particular net will intersect the particular edge, where a potential route for a particular net traverses the set of sub-regions that contain the particular net's set of pins; and
- 15 • uses the identified edge-intersect probabilities to identify routes for the nets.

More specifically, Applicants respectfully submit that the cited references do not disclose, teach, or even suggest a method that *for each net* identifies *for each edge* an edge-intersect probability that specifies the *probability that a set of potential routes for the net will intersect the edge*. As 20 the cited references do not compute any such probability for each edge for each net, they do not disclose, teach, or even suggest using such probabilities to identify routes for nets.

In view of the foregoing remarks, Applicants respectfully submit that the cited art does not anticipate or otherwise render invalid claims 27-34. Accordingly, Applicants request

reconsideration and withdrawal of the § 102(b) rejection of claims 27-34 based on Wang.

III. Claims 38-45

Claims 38-45 stand rejected under § 103 as being unpatentable over Wang in view of Scepanovic. Claim 38 was also rejected under § 102(e) as being anticipated by Scepanovic.

5 Applicants respectfully traverse this rejection. Claims 39-45 are dependent directly or indirectly on independent claim 38. Claim 38 recites a method of routing several nets (each with a set of pins) in a region of an IC layout. This method partitions the region into several sub-regions, where several paths exist between said sub-regions. For each particular net, the method identifies a path-use probability for each particular path that specifies the probability that a set
10 of potential routes for the particular net will use the particular path, where a potential route for a particular net traverses the set of sub-regions that contain the particular net's set of pins. The method uses the identified path-use probabilities to identify routes for the nets.

Applicants respectfully submit that Wang and Scepanovic, neither separately nor through their piecemeal, hindsight combination, disclose, teach, or even suggest such a method.

15 Specifically, the cited art does not disclose, teach, or even suggest a routing method that

- partitions an IC region into several sub-regions, where several paths exist between the sub-regions;
- for each particular net, identifies a path-use probability for each particular path that specifies the probability that a set of potential routes for the particular net will use the particular path, where a potential route for a particular net traverses the set of sub-regions that contain the particular net's set of pins; and
- uses the identified path-use probabilities to identify routes for the nets.

20 More specifically, Applicants respectfully submit that the cited references do not disclose, teach,

or even suggest a method that *for each net identifies for each path* a path-use probability that specifies the *probability that a set of potential routes for the net will use the path*. As the cited references do not compute any such probability for each path for each net, they do not disclose, teach, or even suggest using such probabilities to identify routes for nets.

5 In view of the foregoing remarks, Applicants respectfully submit that Wang does not anticipate claims 38-45. Accordingly, Applicants request reconsideration and withdrawal of the § 102(b) rejection of claims 38-45 based on Wang.

IV. Information Disclosure Statement

Accompanying this Response is an Information Disclosure Statement ("IDS"), the 1449
10 form for this IDS, and several references identified in this 1449 form. Also attached are four 1449
forms for four previous IDS's (dated 11/10/03, 11/05/03, 10/27/03, and 9/29/03) that the
Examiner has not yet reviewed.

CONCLUSION

In view of the foregoing, it is submitted that all pending claims, namely claims 27-52, are
15 in condition for allowance. Reconsideration of the rejections and objections is requested.
Allowance is earnestly solicited at the earliest possible date.

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Respectfully submitted,
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